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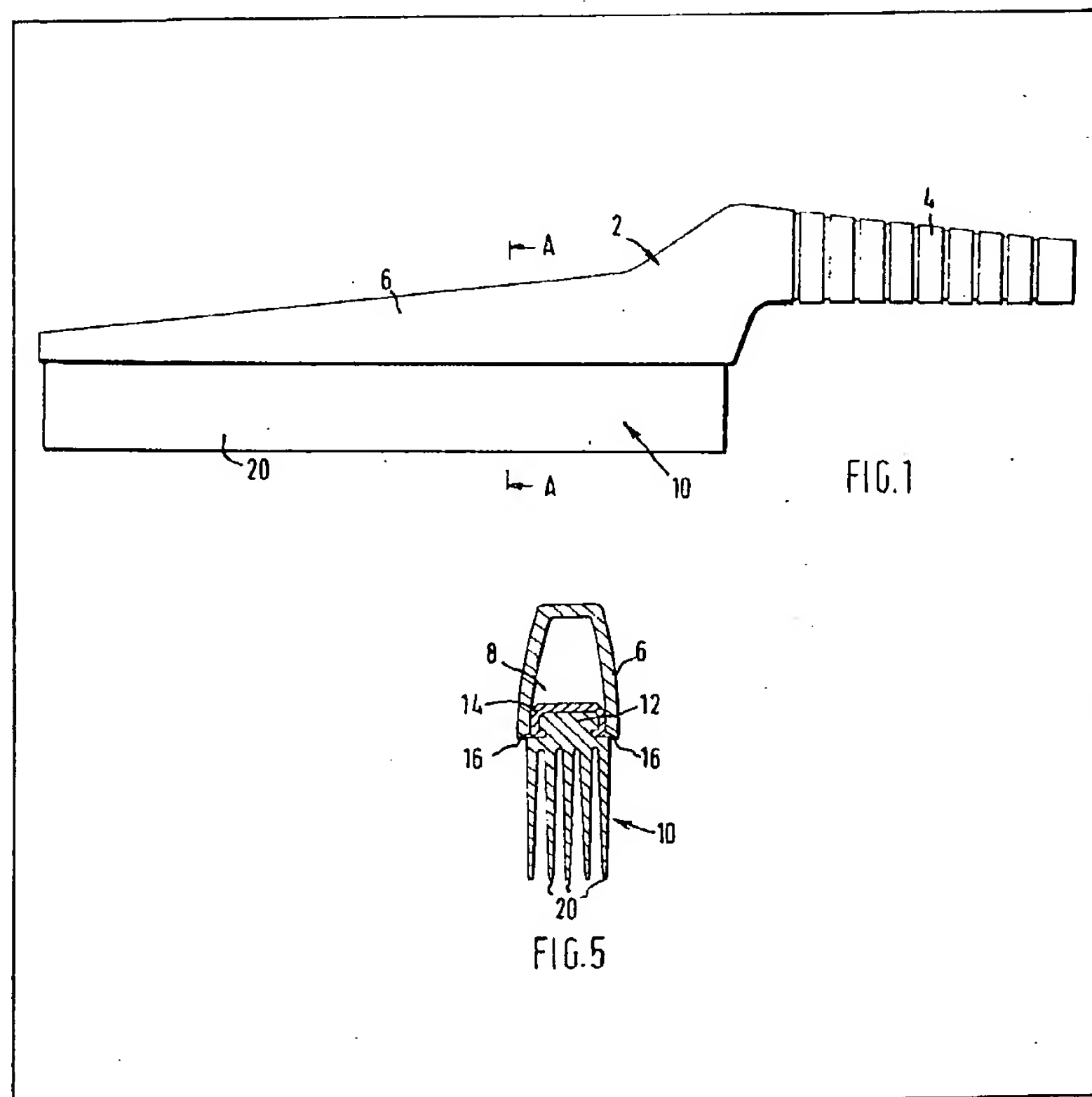
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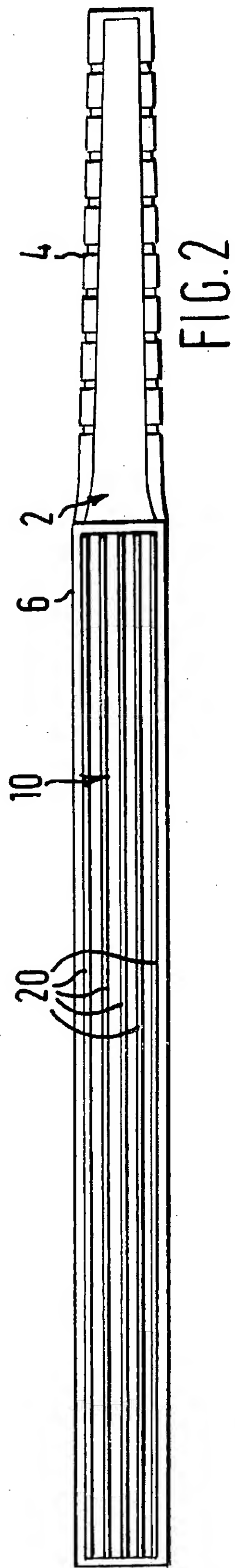
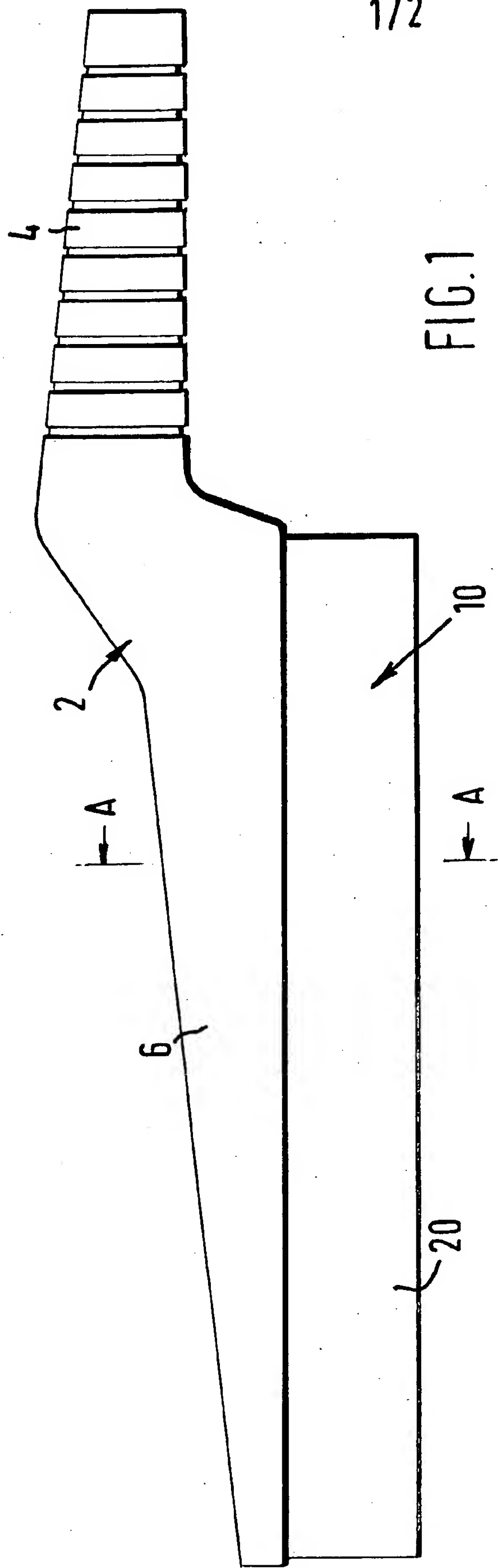
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(54) Hand-held wiper device

(57) A hand-held wiper device for removing water from undulating surfaces of a vehicle such as a car, boat or caravan comprises a body 2 having a handle 4 and portion 6, in which a wiper blade assembly 10 is held. The wiper blade assembly 10 may comprise a blade having one or more lips 20 mounted in a blade holder 14, which can be snap-fitted into a recess 8 in portion 6.



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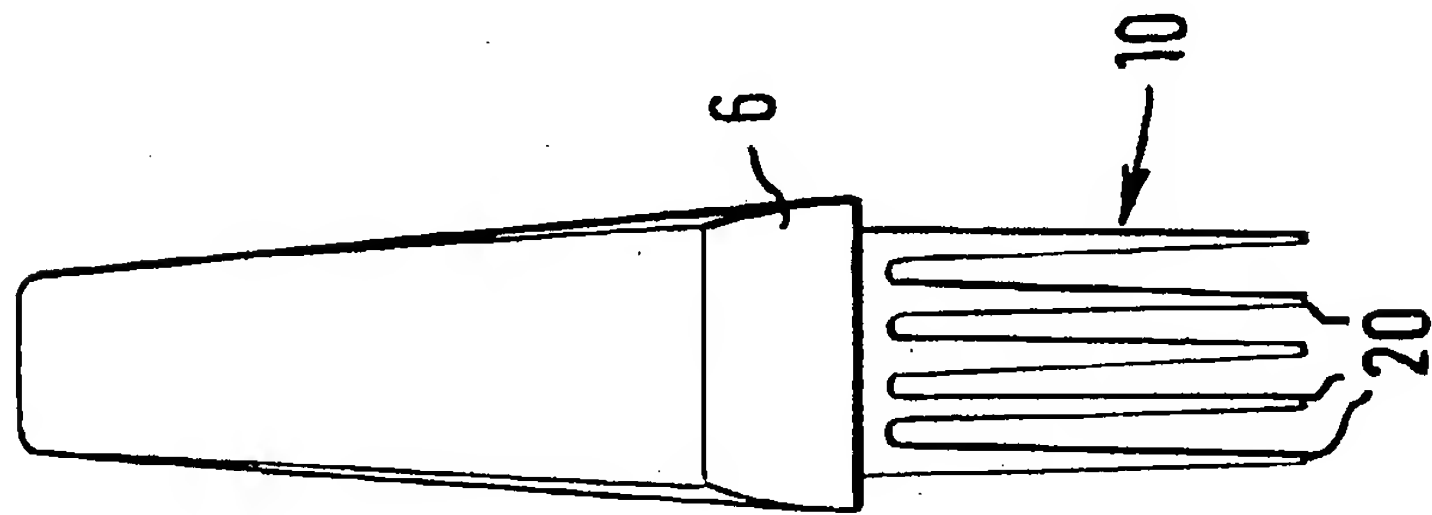


FIG. 3

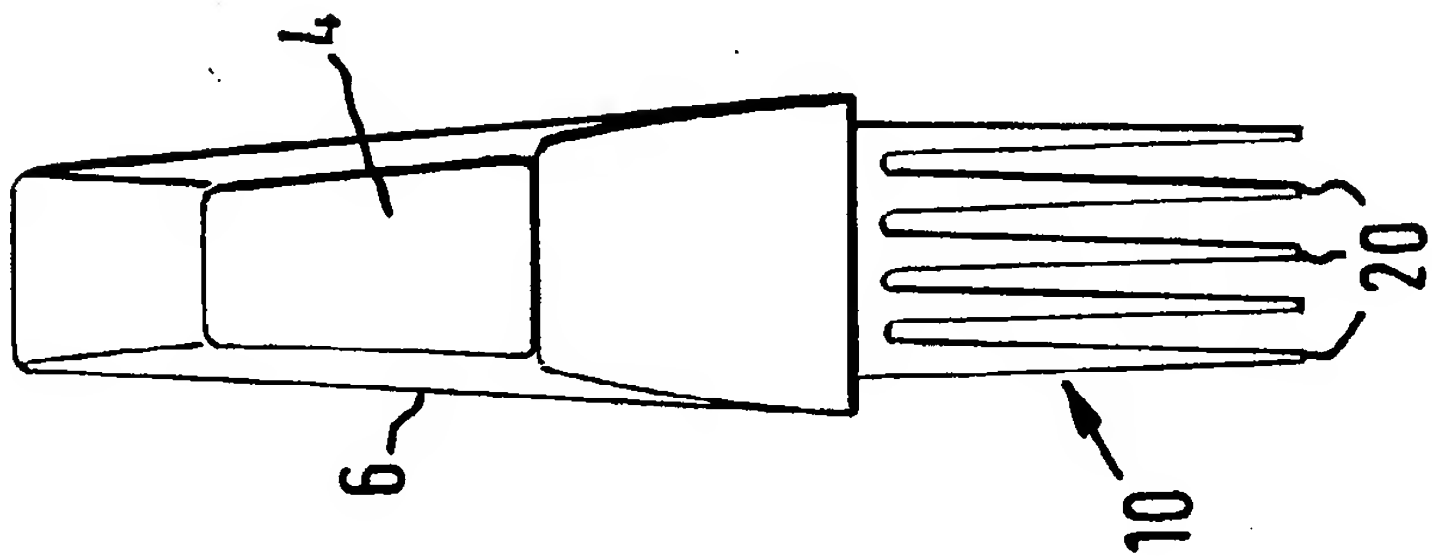


FIG. 4

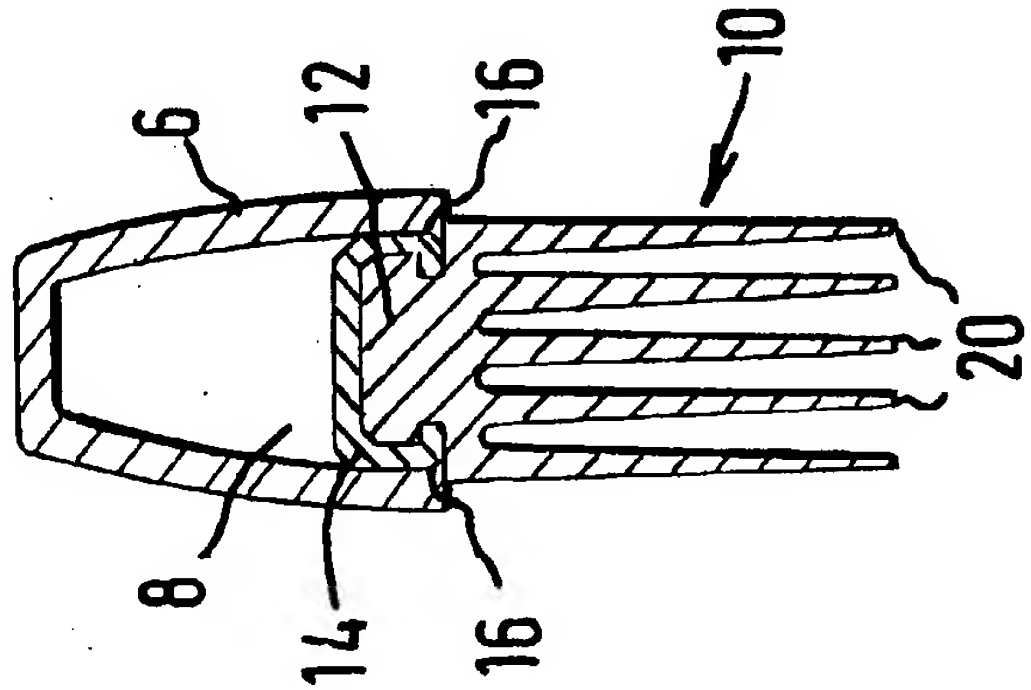


FIG. 5

## SPECIFICATION

**Device for wiping water from exterior undulating surfaces**

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This invention relates to a device for wiping water from exterior undulating surfaces of, for example, vehicles such as private and commercial motor vehicles, boats and caravans.

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In order to be suitable for such purpose, such device should be hand held, relatively small for ease of use and storage, and inexpensive.

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According to the invention there is provided a hand held device for wiping water from exterior surfaces, the device comprising a body having a handle portion and a holder portion, said holder portion having an elongate recess, an elongate blade member having a base portion with a single flexible blade or a plurality of parallel blades extending

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along the length of the blade member and integral with and upstanding from said base portion, the base portion being gripped along its length by said holder member, the holder member being held within said elongate recess.

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Preferably, a multiplicity of blades are provided extending parallel to one another; the blades may be segmented to provide two or more blade portions.

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A preferred embodiment of the invention will now be described by way of example with reference to the accompanying drawings, wherein:

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*Figure 1* is a side view of the wiping device according to the invention;

*Figure 2* is a bottom plan view of the device;

*Figure 3* is a front view of the device;

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*Figure 4* is a rear view of the device; and

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*Figure 5* is a cross-sectional view of the device taken along the line A-A of *Figure 1*.

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Referring to the drawings, the wiping device according to the invention comprises a body 2 formed of polypropylene, polyurethane or heavy duty polythene, a handle portion 4 of rectangular cross-section integral with a holder portion 6. Holder portion 6 is of generally rectangular cross-section and tapers to a minimum cross-section at the end remote from handle 4. Holder portion 6 has an elongate recess 8 (see *Figure 5*) along its length. An elongate blade member 10 of flexible PVC or elastomer comprises a base portion 12 tightly gripped along its length by a blade holder member 14 (*Figure 5*) of generally C-shaped cross-section and formed of rigid PVC. Blade holder 14 makes a snap fit within the inner walls of recess 8, the walls housing detent portions 16 serving to retain holder 14 within the recess. Upstanding from blade base portion 12 are

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five parallel flexible blades 20, which taper in cross-section towards their free edge.

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In use, water can be removed from the external surface of a vehicle by sweeping the wiping device across the external surface.

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Various modifications may be envisaged. Thus any number of parallel blades may be employed having various blade thicknesses and various profiles. The blades may be segmented along their length. Various types of elastomer may be employed to constitute the blade member.

The preferred material for the blades is a solid material which has a relatively slow recovery property. One particularly useful material has a density of  $1340 \text{ Kg m}^{-3}$ , hardness of 20-90 shore, compression modulus  $0.9\text{-}5.2 \text{ MN m}^{-2}$ , minimum tensile strength  $0.12 \text{ MN m}^{-2}$  and elongation at break 600% and tear strength Ca.  $0.96 \text{ KN m}^{-1}$ . Such material is available from Permal Gloucester Limited under the Trade name SORBOTHANE.

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The blades may be made of a natural rubber material.

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In embodiments of the invention the blades are able to follow at least to some extent small curvatures and undulations in the surfaces wiped by the device unlike comparable devices which are only effective to wipe clean or dry planar surfaces, making comparable devices ineffective for use on non-planar or curved surface such as normally exist on car body structures for example.

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## CLAIMS

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1. A hand held device for wiping water from exterior surfaces, the device comprising a body having a handle portion and a holder portion, said holder portion having an elongate recess, an elongate blade member having a base portion with a single flexible blade or a plurality of parallel blades extending along the length of the blade member and integral with and upstanding from said base portion, the base portion being gripped along its length by said holder member, the holder member being held within said elongate recess.

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2. A hand held device according to Claim 1, in which the blade member has three flexible blades.

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3. A hand held device according to Claim 1, in which the blade member has five flexible blades.

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4. A hand held device according to any of Claims 1 to 3, in which said blade member is formed of elastomer having a slow recovery property.

5. A hand held device according to Claim 4, in which said blade member is made of polyurethane elastomer.

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6. A hand held device according to Claim 5, in which said blade member is made of solid SORBOTHANE (Trade Mark).

7. A hand held device for wiping water from surfaces substantially as herein described with reference to the accompanying drawings.

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